

### REMARKS/ARGUMENTS

By this Amendment, a Substitute Specification has been submitted in accordance with MPEP 608.01(q) in order to improve the clarity of the English translation of the original German written description provided by the parent International application no. PCT/EP97/01192. A marked up copy of the originally-filed English translation is also submitted herewith in accordance with 37 CFR 1.125(c). The Declaration of Jeffrey D. Tekanic, also filed herewith, explains the amendments made to the originally-filed English translation and avers that no new matter has been added in accordance with 37 CFR 1.125(b). As indicated in the Tekanic declaration, all changes shown in the marked up copy and reflected in the Substitute Specification find support in the original German language description of PCT/EP97/01192. Therefore, none of the changes indicated in the marked up copy can be deemed new matter in accordance with 35 U.S.C. 132.

Replacement of the entire specification with the enclosed Substitute Specification is respectfully requested. It is further requested that this Substitute Specification replace all prior versions of the English language description and amendments made thereto, in order to simplify the further examination of this application.

In order to clearly demark the differences between amendments, which are based upon the original German-language description, and amendments, which are made to conform the specification to US patent requirements, a separate listing of amendments to the Substitute Specification is also filed herewith. These amendments are presented in order to introduce US-style section headings, to replace paragraph [0005] with description that finds support in the same locations indicated below for

pending claims 126, 133 and 144, to conform paragraphs [0006]-[0009] and [0012] to the pending claims, to insert a brief description of Figure 1 between paragraphs [0036] and [0037], and to correct typographical errors in paragraph [0064] and [0065]. It is believed that all of these amendments are supported by the original description, as is readily apparent from the original description and/or as will be further discussed below.

In addition, an amended Figure 1 has been submitted herewith in order to replace the German spelling "Figur" with "Fig. 1". It is not certain whether such an amended Fig. 1 has previously been submitted and therefore, this drawing replacement is intended to ensure that all formal requirements have been taken care of.

The previously pending claims have been canceled and new claims 146-165 have been submitted herewith. Support for all new claims in the Substitute Specification filed herewith is provided as follows:

Support for independent claims 146, 153 and 164 can be commonly found as follows:

- page 4, lines 11-14 and page 18, lines 8-11 (objects contacted with liquid cleaning composition);
- page 4, lines 22-25 and original claim 9 (weight ratio of water and glycol ethers);
- page 5, lines 14-18, paragraph [0052] and page 20, lines 1-5 (two-phase solution at cleaning temperature, which forms an emulsion with glycol ether-rich droplets in a continuous aqueous phase);
- page 6, line 5 (general formula of glycol ether), page 6, line 10 ( $R^3$  may be hydroxyl), page 6, lines 25-26 and page 7, line 5, page 9, lines 1 and 7 (definition of X – it is noted that the propyleneoxy definition found at page 6, lines 25-26 and page 7,

lines 16-17 contains a typographical error, as clarified by the formulas at page 9, lines 1 and 7) and page 7, line 2 (definition of  $R^1$ );

- page 6, lines 19-21, page 7, lines 18-19 and page 11, lines 3-4 (cleaning liquid may contain one or two or more organic components), see also original claims 8, 10 and 11;

- paragraphs [0028]-[0029] (glycol ethers and other organic compounds, including amines and alcohols);

- paragraphs [0055]-[0057] and page 19, line 23 (recitation of objects to be cleaned and the contaminants to be removed), see also, page 1, lines 8-9 and 22-24 (it is an object of the invention to provide improved cleaning methods for removing lapping and polishing pastes, soldering pastes, adhesives, etc.); and

- page 19, lines 16-17 (vapor cleaning not necessary; equally good results achieved by performing only liquid cleaning).

Additional support for claims 146 and 153 is found at:

- page 4, line 27 to page 5, line 2 (organic component(s) form(s) azeotrope with water at liquid-to-vapor phase transition point).

Additional support for claim 153 is found at:

- page 5, lines 10-13 (liquid cleaning solution fully miscible at a temperature lower than the cleaning temperature); and

- page 2, lines 19-22 and page 3, line 20 (liquid cleaning composition does not have a flash point).

Additional support for claims 146 and 164 is found at:

- page 6, lines 15-18 (glycols, glycol ethers and amino alcohols); and

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- page 5, lines 14-17, page 13, line 24 to page 14, line 2, page 20, lines 4-5 (application of agitation, intensive movement and/or ultrasound to generate emulsion); see also, page 18, lines 10-11.

Additional support for claim 164 is found at:

- page 6, lines 1-2, page 10, lines 10-12 and page 15, lines 14-15 (liquid cleaning composition need not be azeotropic or formulated with the respective azeotropic concentrations); and
- paragraphs [0025], [0028]-[0029] and [0033] (listing of organic compounds).

In addition, supplemental support for the independent claims can be found in paragraphs [0060], [0064] and [0069], which demonstrate that the inventive method may be practiced by only performing liquid cleaning, i.e. without vapor cleaning.

Additional support can be found in paragraphs [0016], [0019] and [0058], which indicate that the liquid cleaning composition itself is not required to contain the respective components in proportions characteristic of an azeotrope of the respective components, but rather may contain other proportions falling within the ranges recited by the claims. This is also confirmed by the fact that the ratio of the respective components in the vapor phase of an azeotrope is determined, in part, by the pressure at which the vapor is generated and by the relative concentrations of the components in the liquid phase. Thus, the organic component(s) according to each of the independent claims may be provided in any weight ratio between 1-35 wt%, regardless of whether the organic component(s) have such concentration in the vapor phase and, with respect to claim 164, regardless of whether the liquid cleaning composition is azeotropic. Furthermore, it is noted that the teaching of providing the glycol ether in an amount that results in a two-phase solution at the cleaning temperature confirms that the present

disclosure teachings concentration ranges other than those present in the vapor phase of an azeotrope.

Thus, for claims 146 and 153, it is only necessary that the respective components are capable of forming an azeotrope with water, but these claims are in no way restricted to a weight or concentration ratio of the components that corresponds to the relative concentrations in the vapor phase of the liquid cleaning composition at its boiling point.

With respect to claim 164, it is noted that the passages at page 6, lines 1-2, page 15, lines 17-18 of the Substitute Specification filed herewith further support the invention being broader than only azeotropic cleaning liquids.

Support for dependent claims 147 and 162 can be found, e.g., at page 8, line 22, page 9, line 6, page 11, line 10 and page 15, line 17.

Support for dependent claims 148 and 157 can be found, e.g., in paragraphs [0025], [0028]-[0029] and [0033].

Support for dependent claims 149, 155 and 158 can be found at page 10, lines 6-8.

Support for dependent claims 150 and 159 can be found at page 12, lines 2-3 and 14-18, page 18, lines 11-15 and page 19, lines 1-6.

Support for dependent claims 151 and 163 can be found at page 5, lines 10-13.

Support for dependent claim 152 can be found at page 15, lines 6-7.

Support for dependent claim 154 can be found, e.g., at page 5, lines 14-17, page 13, line 24 to page 14, line 2, page 20, lines 4-5; see also, page 18, lines 10-11.

Support for dependent claim 156 can be found at page 6, lines 15-18 (glycol and amino alcohol), page 7, lines 22-23, page 8, line 23, page 9, lines 9-12 (furfuryl alcohol

and tetrahydrofurfuryl alcohol), paragraph [0036] and [0059] (relatively small amounts of additional organic components), and [0061] (Table II supports the relatively minor amounts of amino alcohols), see also original claim 11.

Support for dependent claim 160 can be found, e.g., at paragraph [0025], page 9, lines 6 and 14, page 10, lines 15-17, page 11, lines 3-4, paragraph [0059] and the first organic compound listed in Table II (paragraph [0061]).

Support for dependent claim 161 can be found at page 4, lines 4-8, page 13, lines 1-2, page 14, lines 10-13, and original claim 2.

Support for claim 165 can be found, e.g., page 6, lines 15-18 (glycol and amino alcohol), page 7, line 23, page 8, line 23, page 9, lines 11-12 (tetrahydrofurfuryl alcohol); see also page 6, lines 19-21, page 7, lines 18-19 and original claim 10 (cleaning liquid may contain two or more organic components).

Therefore, it is believed that all of the pending claims are fully supported by the original description and further examination of the pending claims is hereby respectfully requested in view of the Substitute Specification and the following remarks.

It is also noted that the present Amendment provides a complete set of specification, claims and drawing, including amendments thereof, for further examination. Therefore, it is not necessary to refer to any earlier filings for the pending specification, claims and drawing.

Turning to the Species Election Requirement mailed December 28, 2007, Applicants first wish to express their gratitude for the prompt further examination of the application. Applicants' new counsel confirms that all efforts will be made to ensure that the proper application identification information is included in all future correspondence and expresses the Applicants' sincere regret that inadvertent errors

were previously made, which resulted in undesired delays of the further examination of this application.

However, with respect to the Examiner's statement that "the applicants did not file any reply to the Notice of Abandonment for almost 22 months", it should be noted for the record that, in response to the Notice of Abandonment mailed on February 8, 2005, Applicants' previous counsel filed the following documents with the PTO:

- Petition to Accept Amendment as Timely Filed and Rescind Notice of Abandonment, filed on March 28, 2005,
- Request for Status of Petition to Accept Amendment as Timely Filed and Rescind Notice of Abandonment, filed on October 5, 2005,
- Request for Status of Petition to Accept Amendment as Timely Filed and Rescind Notice of Abandonment, filed on April 18, 2006,
- Request for Status of Petition to Accept Amendment as Timely Filed and Rescind Notice of Abandonment, filed on November 27, 2006.

Present counsel has also been informed that several telephone inquiries were made to the PTO during this time frame in order to promote a timely withdrawal of the Notice of Abandonment. Declaratory evidence can be submitted, if requested, to further establish the Applicants' diligent efforts to have the Notice of Abandonment withdrawn.

The above-noted Petition and Status Requests should be in the file for the present US application. However, if they are not and the Examiner deems it appropriate to include copies in the file, further copies of these files can be provided on request.

In paragraphs 4 and 5 of the Species Election Requirement, it was indicated that the Substitute Specification filed April 24, 2003 has not been entered. While it is believed that the marked up copy of the specification was properly filed with the Amendment and Response filed April 24, 2003, as indicated on page 12 of that Amendment (a declaration averring to the filing of the marked up copy on April 24, 2003 can be provided if necessary), this objection is made moot by the new Substitute Specification and Marked up Copy that are filed herewith.

The Examiner is kindly requested to indicate in the next action whether the Substitute Specification filed herewith has been entered.

In paragraph 7, a species election requirement was imposed and the Applicants have been required to elect a single disclosed species for prosecution on the merits if no generic claim is finally held to be allowable.

In response, Applicants elect (with traverse, see below) a species of the claimed cleaning methods, in which the liquid cleaning composition consists of water, dipropyleneglycolmono-n-propylether and 1-aminobutanol-2.

Claims 146-164 are believed to readable upon this elected species.

It is noted that the present methods are directed to liquid cleaning compositions and methods of cleaning, in which an unstable emulsion is formed, e.g., by mechanical agitation or the like, and the enumerated objects are cleaned while the liquid cleaning composition is in the state of being an unstable emulsion. When allowed to rest, the liquid cleaning compositions will separate into an upper phase and a lower phase (i.e. the liquid cleaning composition is no longer in the state of being an emulsion). Further, due to the properties of the recited liquid cleaning compositions, they provide the advantage that contaminants (both organic and inorganic) removed from the objects



readily precipitate out of solution and can be easily be removed from the cleaning liquid by filtration, skimming, decanting, etc. Thus, the liquid cleaning compositions enjoy the advantage of being repeatedly usable in a state that provides highly effective cleaning, without becoming loaded with contaminants, which would severely diminish the cleaning capacity of the liquid cleaning composition.

Thus, particular attention may also be given to new dependent claims 150 and 159 in this regard, and Applicants are open to suggested amendments along these lines, if such an amendment may assist in defining patentable subject matter.

It is further noted that the glycol ethers have generally been directed to dipropyleneglycol ethers having propyl or butyl groups, e.g. dipropylene glycol propylethers and dispropylene butylethers. These glycol ethers have the property of forming two-phase solutions with water (with suitably high concentrations of the glycol ether(s)), which are capable of forming unstable emulsions when subjected to external stimulus, such as agitation, intensive movement, ultrasound, etc. If it is deemed appropriate to include such additional properties in the independent claims in order to place the claims into a condition for allowance, Applicants are also open to such a suggested amendment.

For the record, Applicants respectively traverse this species election requirement for the following reasons:

First, MPEP 1893.03(d) states in pertinent part:

"Examiners are reminded that unity of invention \*\*>(not restriction practice pursuant to 37 CFR 1.141-1.146)< is applicable in international applications (both Chapter I and II) and in national stage applications submitted under 35 U.S.C. 371."

See also, 37 CFR 1.475, which is expressly applicable to national stage applications.

The present US national phase application was submitted under 35 U.S.C. 371. Although a CPA and an RCE have been filed during the course of the examination of the present US national stage application, this application retains the 371 filing date of January 19, 1999 and thus continues to be a 371 application.

Furthermore, MPEP 1893.03(d) specifically mentions that 37 CFR 1.146 (Election of species) is inapplicable to 371 applications.

Therefore, the restriction and species election practice according to 37 CFR 1.141-1.146 and MPEP 800 is inapplicable to the present US national phase application, such that the species election requirement (i.e. made in accordance with 37 CFR 1.141-1.146) should be withdrawn as lacking an adequate legal basis. A unity of invention analysis according to MPEP 1850 should instead be applied to the present 371 application in accordance with MPEP 1893.03(d).

Second, according to the "a priori" analysis discussed in MPEP 1850, it is noted that all pending claims include the special technical features of using a liquid cleaning composition:

- having about 65-99% water, the rest being dipropyleneglycolether(s) and other (optional) components that provide the liquid cleaning composition with the property of being two separate phases at the cleaning temperature and capable of converting into an emulsion for cleaning purposes,
- to remove the respective contaminants from the respective objects listed in the preambles of each independent claim.

Therefore, it is believed that at least these common special technical features impart unity of invention to all the pending claims, based upon an "a priori" analysis.

An "a posteriori" analysis according to MPEP 1850 is not presently possible, because the Examiner has not identified which prior art reference should be taken into account for determining unity of invention. Therefore, Applicants wish to reserve the right to further traverse a unity of invention objection, in case the Examiner elects to identify such a prior art reference in the next action and impose an "a posteriori" unity of invention objection.

In conclusion, further examination of all pending claims is requested in accordance with MPEP 1850 and 1893.03(d).

Finally, as a reminder, a Declaration under 37 CFR 1.131 was filed on May 21, 2003, and established a date of invention prior to September 19, 1996. Applicants confirm they wish to continue to rely upon this evidence in the further examination, as well as the disclosures provided by the German and US priority applications if necessary, in the event that intervening art may be identified in the further examination of this application.

*Deposit Account Authorization*

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the

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filing of this, concurrent and future replies, including extension of time fees, to Deposit  
Account 50-3828 and please credit any excess fees to such deposit account.

Respectfully submitted,  
Muncy, Geissler, Olds & Lowe, PLLC



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Scott T. Wakeman  
Registration No. 37,750

PO BOX 1364  
Fairfax, VA 22038-1364  
1.703.621.7140

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